We claim:

1. A biological process for the synthesis of shape, size and polymorph controlled oxide nanoparticles, which comprises incubating a wet fungus or fungal extract with an aqueous solution of a metal salt to obtain a biomass, separating the biomass and filtering the oxide nanoparticles therefrom.
2. A process as claimed in claim 1 wherein the incubation of the wet fungus/fungal extract with the metal salt solution is carried out at a temperature in the range of 15 to 40°C and for a period in the range of 1 to 3 days.
3. A process as claimed in claim 1 wherein the biomass is filtered using a minimum 1 micron pore size filter to obtain the oxide nanoparticles.
4. A process as claimed in claim 1 wherein the metal salt is selected from the group consisting of chlorides, nitrates, oxalates and sulfates.
5. A process as claimed in claim 1 wherein the fungus is used in whole cell form, wet solid mass or fungal extract.
6. A process as claimed in claim 1 wherein the temperature for incubation is in the range of 23-33°C.
7. A process as claimed in claim 6 wherein the temperature for incubation is in the range of 25-29°C.
8. A process as claimed in claim 1 wherein the concentration of the metal salt in the solution is not less than 1mM.
9. A process as claimed in claim 1 wherein the fungus/fungal extract is used in an amount of 10 to 60 mgs.
10. A process as claimed in claim 1 wherein the fungus is selected from the group consisting of *Fusarium sp.*, *Trichothecium sp.*, *Verticillium sp.*, *Chloridium sp.*, *Aspergillus sp.*, *Cephaliophora sp.*, *Fusarium oxysporum* and *Helicostylum sp.*
11. A process as claimed in claim 1 wherein the metal comprises a metal from the transition metal group.
12. A process as claimed in claim 1 wherein the metal is selected from the group consisting of Ti, Zr, Si and Zn.